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ABSTRACT OF THE DISCLOSURE

According to a plasma processing method, a process gas supplied into a process chamber is used to generate plasma from the process gas and process a substrate placed in the process chamber by means of the plasma. The substrate includes stacked films of at least two types to be etched by the plasma, and, according to any of the films that is to be etched, a change is made in the process gas in the plasma generation period. Accordingly, the time required for any process except for the main plasma process can be shortened so that the total time for the entire plasma process can be shortened to improve the processing speed.